97-1 PROGRAM
CONFIGURATION MANAGEMENT PLAN

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97-1 Program
CONFIGURATION MANAGEMENT PLAN (CMP)

1.0 INTRODUCTION

Configuration Management (CM) is a discipline for managing the project baseline. Formal CM includes configuration identification, configuration control, configuration status accounting, and configuration verification. This document will define the Configuration Management process for the 97-1 Program until the Program Execution Plan (PEP) is prepared and approved. This plan is not intended to support the more complex implementation process and projects that will be established in the PEP. At that point, a more comprehensive CMP will be prepared that will support the program from that point forward.

1.1 Program

DNFSB Recommendation 97-1 recommended adding ^{233}U material that is not covered by other programs to its area of safety concern. The Department of Energy has accepted that recommendation and has detailed its response in the 97-1 Implementation Plan.

The Department has an inventory of approximately two metric tons of ^{233}U in many different forms stored under a variety of conditions throughout the complex. The majority is located at the Oak Ridge National Laboratory (ORNL) and the Idaho National Engineering and Environmental Laboratory (INEEL), with significantly lesser quantities at Los Alamos National Laboratory (LANL). Even smaller quantities of material exist at numerous other “small sites”. The material exists as oxides, metal, solutions, fluorides and other miscellaneous forms. Some of this material is also presently being managed under the Department’s National Spent Nuclear Fuel Program and under the Implementation Plan (IP) for Board Recommendation 94-1 (i.e., the Oak Ridge Molten Salt Reactor Experiment [MSRE]) material.

This purpose of the 97-1 program is to manage the implementation of the 97-1 Recommendation and this document is intended to support that effort by establishing the configuration management processes and procedures for that program.

1.2 Purpose

The purpose of this plan is to define the minimum CM requirements applicable to the 97-1 Program and establish uniform CM requirements for control of the 97-1 Program documentation.

1.3 Scope

This plan will serve as the Program Configuration Management Plan until the Program Execution Plan is completed. Upon completion of the PEP, this plan will be updated to reflect the larger scope of activities and implementing projects that are expected to result. Until then, this plan shall be used by all elements of the 97-1 Program. Once projects are identified and established, 97-1

implementing projects will develop their own configuration management plans as well and will be integrated with the revised program CM plan and objectives.

1.4 Precedence

In the event of a conflict between this plan and the 97-1 Program Execution Plan (PEP), the order of precedence shall be: 1) the PEP, and 2) the CMP.

1.5 Responsibilities

Program Manager is responsible for overall program management and for assuring that program activities, administrative and service functions are undertaken within the framework of applicable DOE orders. The Program Manager has final review authority/approval of decisions at the CCB. Program Manager shall appoint members to the CCB that are representative of the organizations affected by the program (e.g., key sites, EM Waste Management, DOE-Al transportation, Defense Programs, and EM-66), including a representative for Program ES&H.

Control Account Manager (CAM) will monitor and coordinate the impact of changes with System Engineering and will implement approved cost and schedule changes. CAM will determine if a proposed change impacts the program cost or schedule baseline.

Configuration Manager is responsible to the Program Manager for all matters pertaining to CM, will enforce applicable CM procedure and provide the necessary CM documentation. The Configuration Manager will also act as the Change Control (CC) Administrator for the CCB.

The Program Change Control Board (CCB) is responsible for the review and recommending approval or disapproval of a Baseline Change Proposal, subject to Program Manager concurrence, of all Class 1 changes (see section 3.1) to baseline items.

Systems Engineering shall assist the CCB in such reviews through preparation of impact analyses for proposed changes.

A Technical Review Board (TRB) shall be convened at the discretion of the Program Manager to provide a technical review of the technical merit of proposed changes to technical approaches which impact work scope. The results of the TRB review, including dissenting opinions, shall be appended to the Baseline Change Proposal that is transmitted to the CCB.

CC Administrator: Maintain and administer the change control process as described in this procedure.

2.0 BASELINE IDENTIFICATION

The baseline for the 97-1 Program will be identified in the 97-1 Program Execution Plan (PEP). Until that document is in place, the 97-1 Recommendation, the 97-1 Recommendation, the 97-1Implementation Plan and the 97-1 System Requirements Document constitute the Baseline for the Program. Other documents may be added to the 97-1 Program Baseline prior to the approval of the PEP, subject to the policies and procedures of this document.

3.0 CHANGE CONTROL

3.1 Change Classifications

The 97-1 Program will have criteria for two change classes. Each Engineering Change Proposal (ECP) will fall into one of two Classes. Class I ECP affects a baseline controlled element and/or cost or schedule, and must be approved by the Program CCB; a Class II ECP does not impact baselines and is not subject to Program CCB action.

3.1.1 Class I Criteria

An engineering change shall be classified Class I when there is one or more of the following is affected:

- Approved baseline documents (specifications, requirements, ICD's, and etc),
- Product configuration identification as specified by the Program Manager, excluding referenced drawings (except those prescribed directly in a contract).
- Technical requirements contained in the product configuration identification: performance, reliability, maintainability, or survivability, weight, balance, moment of inertia, or interface characteristics.
- Non-technical and contractual provisions; fee, incentives, cost, schedules, guarantees or delivers.

3.1.2 Class II Criteria

An engineering change shall be classified Class II when it does not fall within the definition of a Class I change as defined above. Examples of Class II changes are: Changes in in-house controlled documentation (e.g. correction of errors, addition of clarifying notes or views) or a change in allocated program cost or schedule. Although not an action item for the Program CCB, records of changes will be maintained for Class II changes and these records will be made available for review and audit by the CCB as requested.

3.2 Change Control Board (CCB)

The 97-1 Program CCB is established within the 97-1 Program Management organization to accomplish the following:

- Determine the level of change.
- Evaluate the change impact on cost, schedule, and technical performance.
- Approve changes to the baselines for forward recommended change packages (levels 1 and 2) to the Department of Energy ESAB.

3.3 Change Process

The basic vehicle for adding new items or changing existing items in the Program baseline is the Baseline Change Proposal. The Baseline Change

Proposal and associated Change Control Processes are described in Appendices A and B of this document.

4.0 CONFIGURATION STATUS ACCOUNTING

Configuration status accounting is the element of CM that provides the essential records and reporting of configuration data for all relevant 97-1 Program products. The primary objectives of configuration status accounting are:

- To maintain a current listing of all project baseline documentation,
- To maintain current and accurate records of the status of changes, both complete and in process. and
- To track individual product configurations.

When necessary, Configuration Management will have an automated system for the recording and reporting of status accounting information. The Configuration Manager is responsible for the establishment and maintenance of an automated system for the recording and reporting of configuration status accounting information. The Configuration Manager is responsible for the format of the documentation and for providing the configuration status on an as-needed basis. Access to this information will be made available to all 97-1 Program personnel through established computer networks.

5.0 CONFIGURATION VERIFICATION

Configuration reviews and audits will be conducted at regular intervals during the design process and at design reviews to verify compliance with requirements, assess baseline documentation and to insure the incorporation of changes. Comprehensive Configuration Audits will be conducted against system and design requirements upon completion of final design and again upon completion of construction.

Appendix A

Guidelines for the 97-1 Baseline Change Control Board Process

1.0 PURPOSE AND OBJECTIVES

The Environmental Management (97-1) Baseline Change Control Board (CCB) assists in providing effective management and control over 97-1 technical, cost, and schedule baselines. The objective of this board is to provide management review and recommendations to the Program Manager concerning disposition of proposed changes or additions to the baselines on an as-requested basis.

2.0 97-1 CCB/TRB ORGANIZATION

A 97-1 CCB is an standing committee established by the Program Manager that meets when deemed necessary to consider and approve or disapprove requested Baseline changes or additions. Membership shall include representative of the key 97-1 program elements and shall be comprised entirely of DOE personnel.

A Technical Review Board is an ad hoc committee established by the Program Manager that meets when requested to review and provide recommendation to the CCB on the technical merits of a Baseline Change Proposal (BCP). Membership shall include organizations affected by the BCP and may include contractor personnel as well as DOE personnel.

3.0 CCB FUNCTIONS

At the request of the Program Manager, the 97-1 CCBs shall convene to:

- review Baseline Change Proposals (BCPs)
- assess program impacts of the new document or BCP
- recommend disposition of the BCP.

While recognizing that the CCB is intended to provide rapid responses to issues facing the program, the Configuration Manager is responsible for providing the CCB members with sufficient time and documentation to perform an adequate review. If a CCB meeting is to be held, the Program Manager will identify a chairman (which may be the Program Manager or the CC Administrator).

The CCB chairman:

- presides over the CCB meetings
- assigns action items that may result from discussions of requested changes
- ensures that the CCB membership is fulfilling its responsibilities
- provides a Board recommendation to the Program Manager regarding the BCP.

CCB members are responsible and accountable to the CCB chairman for:

- attending all CCB meetings or providing an alternate to attend
- providing timely review and evaluation of the requested change, with particular emphasis on the functions for which they have primary responsibility
- documenting their opinion, especially a dissenting opinion.

The 97-1 Change Administrator provides change coordination and assistance to the Program Manager for all Level 3 and above changes. 97-1 Change Administrator (or designee) administrative functions include:

- providing copies of the requested change (see Appendix B for content) and the BCP Review form to all board members prior to the meeting
- coordinating the date and location of the CCB meetings
- preparing the meeting agenda
- attending all meetings and recording salient points of all issues discussed
- preparing and distributing action memos, when required
- informing the chairman and Program Manager of tracking information.
- Assign each proposed change a BCP number.
- Verify the Change Authority level (when applicable).
- Expedite processing of BCPs with a goal of completing the entire process within 10 working days or less, if possible.
- Screen BCP packages for completeness.
- Establish and maintain a library of all change proposals and supporting data.
- Track all proposed changes from initiation of the concept approval request through final disposition of the change proposal, and input the information into the appropriate logs for tracking purposes.
- Submit monthly reports to the 97-1 Program, providing, as a minimum, the status of current proposals and changes that have been or are being processed.

Technical Review Board (TRB) members shall be appointed by the Program Manager. When requested by the Program Manager, the TRB shall:

- review proposed BCP technical changes and
- provide an opinion to the CCB as to the technical merits of the proposed changes.
- dissenting opinions shall be included in the TRB report.

Requestors are responsible for the preparation of the Baseline Change Proposal Requests (Appendix B) assisted by the Program Systems Engineering staff.

The Program Systems Engineering staff shall facilitate the change process through review of the change request and shall work with the requestor to prepare an impact analysis of the change, including cost, schedule and technical scope.

4.0 OPERATION

4.1 Documents to be Reviewed

BCP forms covering both additions and modifications to the baseline, supporting documentation (including impact analyses), and status information will be provided to CCB members for review.

4.2 Authority

The Program Manager or designate has the authority to disposition proposed changes within assigned thresholds.

4.3 CCB Meetings

4.3.1 The CCB will meet at the discretion of the Program Manager with such frequency as may be required. The CCB meeting is presided over by the chairman. The 97-1 Change Administrator assists the chairman as required. The

Change Requestor and/or Systems Engineering may be requested to present the proposed change and respond to questions from the CCB.

4.3.2 Meeting Minutes: CCB meeting minutes are kept by the 97-1 Change Administrator or as designated by the Program Manager. A copy of the minutes will be maintained in the 97-1 Document Control files with the dispositioned BCP. The original will be filed in the appropriate project files.

4.4 Baseline Change Control Process

4.4.1 Requestor: Initiate an engineering/technical change or addition using the appropriate program Baseline Change Proposal form. Obtain the necessary form from the Configuration Manager.

4.4.2 Requestor: Submit Baseline Change Proposal form to the configuration manager for review.

4.4.3 Technical Change Review and Approval

4.4.3.1 Configuration Manager: Initiate a technical and administrative review of the proposed change.

4.4.3.2 Engineering organization: If a significant change is necessary because of an incorrect design, then review and propose modifications to the design process and design verification methods and implementing documents, as necessary. Document the design deficiencies.

4.4.3.3 Systems Engineering or engineering organization: Review the proposed engineering/technical changes against the current design input (see def.) documentation and ensure that the appropriate design disclosure documents requiring change are identified on the change control form. Revise as necessary. Include in the new design input documentation the post-implementation testing methods and acceptance criteria.

4.4.3.4 System Engineering and requestor: Initiate supporting impact reviews of the proposed engineering/technical change. Ensure all affected organizations are aware of design changes that impact related implementing documents or training programs. Ensure that ES&H and mission objectives are preserved, that environmental permits and licenses are not impacted, that the proposed changes will meet defined post-implementation acceptance criteria, and that interface points are identified and compatible.

4.4.3.5 Systems Engineering and requestor: Finalize engineering/technical change package and submit to the CM for final TRB review (when requested by the CM).

4.4.3.6 TRB: Conduct a technical review of the proposed engineering/technical change package to verify that technical reviews have been performed adequately, that the design does not require further development, analysis, or review, that the change package is complete and ready for implementation, that necessary external (such as DOE, or NRC for NRC licensed facilities) approvals have been obtained, and that the proposed changes are authorized for implementation.

4.4.3.7 Configuration Manager: Approve the final proposed engineering/technical change package, sign the change control form and schedule a CCB meeting to consider the change. Ensure that the change control log is updated accordingly.

4.4.3.8 Change Control Board: Review and approve or disapprove requested changes based on recommendation of the TRB and the assessment provided with the BCP package regarding overall program impacts.

4.4.4 Implementation Process

4.4.4.1 Engineering organization: If approved, initiate changes to the effected documents listed on the change control form.

4.4.42 Engineering organization: If approved, issue design disclosure documentation to program/project/facility personnel (such as engineering, operations, training, and maintenance), as appropriate, to complete engineering/technical change.

4.4.43 Engineering organization: Notify the Configuration Manager that changes have been implemented.

4.5 Engineering/Technical Change Records and Traceability

4.5.1 Configuration Manager: Sign the Baseline Change Proposal form to indicate project completion (for implementation close out). Ensure the entry of configuration data from Section 4.3 into an approved database (see MCP-2810, “Identifying Configuration Controlled Items”) and update Baseline change Proposal log.

4.5.2 Configuration Manager: Ensure that baseline change control data is maintained with backup documentation and reference correspondence, and that superseded document(s) are designated as superseded and kept for historical and QA purposes with program documentation.

5. RECORDS

The following records will be maintained by the Change Control Administrator:

- Baseline Change Proposal Form.
- Impact Analysis: Retain with Baseline Change Proposal Form
- TRB Recommendation: Retain with Change Proposal Form
- Baseline Change Proposal Log.
- Record Disposition: quality assurance record, retain until item is no longer in service.
- Disposition Authority: TBD.

Appendix B

Baseline Change Proposal Content

The baseline change control form is the primary vehicle for tracking changes to configuration controlled items. The change control form should include or reference the following information:

A. BCP form number
B. change requester name and organization
C. title of change /project name and number
D. date of request
E. priority indication (urgent or emergency, routine)
F. Systems Engineering quality level (in accordance with MCP-540 “Graded Approach and Quality Level Assignment”
G. responsible Systems Engineering engineer (name, organization)
H. Systems Engineering identification number and description
I. detailed description of proposed change (indicate whether an addition to the baseline or a modification to an existing baseline)
J. justification or purpose for change or addition
K. type of design review required (modified design review, complete design review)
L. indication of design review completion (signature, date)
M. list of affected documents (environmental, safety, & health [ES&H] documents and permits, master/essential drawings, specifications, design input documents, operating procedures, maintenance documents, and other project/program/facility documentation)
N. required database updates, as applicable
O. list of engineering/technical requirements (or reference to approved requirements) associated with the respective change and system/subsystem/component interfaces affected by the change
P. training requirements
Q. list of discipline reviewers, as applicable, with approval signature and date (examples include: industrial hygiene, industrial safety, radiological engineering, fire protection, emergency preparedness, vehicle traffic, criticality, safeguards and security, quality engineering, hoisting and rigging engineering, human factors, engineering supervisor, or others)
R. assessment of Unreviewed Safety Questions (USQ), for nuclear facilities only, per appropriate procedure, by program/project/facility manager (signature, date)
S. final approval or justification for disapproval by program manager (signature, date)
T. acceptance of project completion for implementation closeout by program manager (signature, date).